

Applicant: Bertram SUGG
Docket No. R.304045
Preliminary Amdt.

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-8. (Canceled)

9. (New) A piezoelectric actuator, comprising
 - a multi-layered construction of piezoelectric layers (2) interleaved with inner electrodes (3, 4; 14, 15), and
 - an alternating contacting of the inner electrodes (3, 4; 14, 15) with outer electrodes (5, 6; 11), the regions between the outer electrodes (5, 6; 11) being provided with an insulation (12, 13), comprised of a material with properties virtually identical to those of the piezoelectric layers (2), the insulating layer (12, 13) being applied to the outer surface of the piezoelectric actuator (1; 10) in the region between the outer electrodes (5, 6; 11).
10. (New) The piezoelectric actuator according to claim 9, wherein the insulating layer (12, 13) encloses the edges of the piezoelectric actuator (1; 10).
11. (New) The piezoelectric actuator according to claim 9, wherein the insulating material is slip.

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12. (New) The piezoelectric actuator according to claim 10, wherein the insulating material is slip.

13. (New) The piezoelectric actuator according to claim 9, wherein the outer electrodes (5, 6; 11) are attached to regions of the insulating material that have been uncovered by grinding.

14. (New) The piezoelectric actuator according to claim 10, wherein the outer electrodes (5, 6; 11) are attached to regions of the insulating material that have been uncovered by grinding.

15. (New) The piezoelectric actuator according to claim 11, wherein the outer electrodes (5, 6; 11) are attached to regions of the insulating material that have been uncovered by grinding.

16. (New) The piezoelectric actuator according to claim 12, wherein the outer electrodes (5, 6; 11) are attached to regions of the insulating material that have been uncovered by grinding.

17. (New) A method for manufacturing a piezoelectric actuator according to claim 9, the method comprising the steps of

applying the insulating layer (12, 13) to all of the external surfaces of the piezoelectric actuator (10) in the green state of the piezoelectric actuator,
sintering the piezoelectric actuator (10), and
uncovering the regions (16, 17) in which the outer electrodes (5, 6; 11) are contacted, after sintering the piezoelectric actuator.

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18. (New) A method for manufacturing a piezoelectric actuator according to claim 10, the method comprising the steps of

applying the insulating layer (12, 13) to all of the external surfaces of the piezoelectric actuator (10) in the green state of the piezoelectric actuator,
sintering the piezoelectric actuator (10), and
uncovering the regions (16, 17) in which the outer electrodes (5, 6; 11) are contacted, after sintering the piezoelectric actuator.

19. (New) A method for manufacturing a piezoelectric actuator according to claim 11, the method comprising the steps of

applying the insulating layer (12, 13) to all of the external surfaces of the piezoelectric actuator (10) in the green state of the piezoelectric actuator,
sintering the piezoelectric actuator (10), and
uncovering the regions (16, 17) in which the outer electrodes (5, 6; 11) are contacted, after sintering the piezoelectric actuator.

20. (New) A method for manufacturing a piezoelectric actuator according to claim 13, the method comprising the steps of

applying the insulating layer (12, 13) to all of the external surfaces of the piezoelectric actuator (10) in the green state of the piezoelectric actuator,
sintering the piezoelectric actuator (10), and

uncovering the regions (16, 17) in which the outer electrodes (5, 6; 11) are contacted, after sintering the piezoelectric actuator.

21. **(New)** The method according to claim 17, wherein the step of applying the insulating layer comprises dipping the piezoelectric actuator (10) into the still fluid insulating layer, or wetting the piezoelectric actuator (10) with the fluid insulating material either on all sides or on two sides.

22. **(New)** The method according to claim 18, wherein the step of applying the insulating layer comprises dipping the piezoelectric actuator (10) into the still fluid insulating layer, or wetting the piezoelectric actuator (10) with the fluid insulating material either on all sides or on two sides.

23. **(New)** The method according to claim 19, wherein the step of applying the insulating layer comprises dipping the piezoelectric actuator (10) into the still fluid insulating layer, or wetting the piezoelectric actuator (10) with the fluid insulating material either on all sides or on two sides.

24. **(New)** The method according to claim 20, wherein the step of applying the insulating layer comprises dipping the piezoelectric actuator (10) into the still fluid insulating layer, or wetting the piezoelectric actuator (10) with the fluid insulating material either on all sides or on two sides.

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25. **(New)** The method according to claim 17, wherein the regions (16, 17) that are contacted by the outer electrodes (5, 6; 11) are uncovered by means of grinding.

26. **(New)** The method according to claim 21, wherein the regions (16, 17) that are contacted by the outer electrodes (5, 6; 11) are uncovered by means of grinding.

27. **(New)** The method according to claim 17, wherein the regions (16, 17) that are contacted by the outer electrodes (5, 6; 11) are uncovered by means of etching.

28. **(New)** The method according to claim 21, wherein the regions (16, 17) that are contacted by the outer electrodes (5, 6; 11) are uncovered by means of etching.